

PRESENTATION FRETWORK DESIGN WITH THIS NUMBER.

Hobbies

• A Weekly Journal •

For Amateurs of Both Sexes.

No. 5. VOL. I.

NOVEMBER 16, 1895.

ONE PENNY.

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CHAP. V.

STALLS—CHINESE, JAPANESE, AND VENETIAN.



TALL decoration is undoubtedly the most fascinating part of all work connected with Bazaars or Fancy Fairs, and a writer feels inclined to prolong the subject indefinitely. A few more examples, however, must here suffice. At some future time we shall give special articles and drawings dealing in full detail with particular treatments of Bazaar Stalls.

Last week only a passing reference was made to Chinese and Japanese work, and as these styles are now becoming so popular, a few practical suggestions on their manner of decoration may be of advantage to readers.

A Rustic Chinese Stall, as Fig. 1 for example, can easily be erected in any Bazaar. Woodwork or Bamboo might be used for the principal upright and horizontal supports, or the old method of framing could be employed, and the effect obtained by means of stretched canvas and distemper colour. If the Stall were to be of any size—say twelve feet or more in length—it is safer to have a good solid support. This advice applies to all large Stalls where an upper storey is built, and where the general decoration is carried out with some elaboration. In this case the upper storey is of painted canvas as usual. A light framework will

be required for the roofing, and for this a long horizontal bar with a few rafters will be sufficient. Brown paper might be used for the slooping roof, but were the Stall to be employed again at some other Bazaar, canvas would certainly be found much more serviceable. The appearance of tiles can, of course, be quickly indicated with the brush; bold, free work is recommended for this, as any attempt at neatness and precision will be utterly lost.

For the top roof ornament, almost anything which is moderately grotesque and irregular will do in an emergency, but a little time might well be spent in referring to some Chinese books or photographs, and a thoroughly characteristic piece of decoration secured. Stiff cardboard will be found very suitable for this ornament. It may be cut into shape with scissors, or with a sharp knife, and then sized and painted. A variety of Chinese Lanterns should be purchased and hung along the front of the Stall as shewn in the sketch; but once more it would be urged that these should not be lit unless they are so placed that any chance of fire is all but impossible.

Perhaps the writer may be unduly prejudiced against these fantastic little luminaries, but he carries with him the recollection of a somewhat unpleasant experience:—At a large Bazaar held in one of the Midland centres, the chief attraction at one of the Stalls was the magnificent display of beautiful Chinese Lanterns. The writer happened to be carrying on a harmless flirtation across the table with the gay young Stall-holder, who was arrayed in a light flowing costume made up of cashmere and muslin. Suddenly a

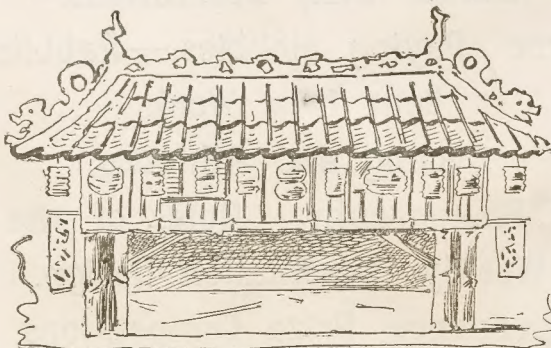


FIG. 1. Chinese Stall.

fire, and before there was time for a word of warning it fell at the young lady's feet. In a moment she was in flames. The writer is not by any means a forward man, and he has every respect for the recognised laws of propriety; but it was no time for idle considerations of etiquette, so quick as thought he leant across the table, caught the blazing beauty by the waist, and threw her bodily into the arms of an affrighted policeman, who promptly embraced and extinguished her. Strangely enough, the lady was scarcely injured; the custodian of law and order had the tip of one finger slightly charred; but the writer, who was dressed in fancy costume, was badly burned, and had at once to be removed to his hotel—with, however, the comforting thought that he had at least saved a fair young lady's life. The next morning he was astounded to see a paragraph in the papers headed—"Exciting Scene at the S— Bazaar; Gallant Conduct of a Policeman." A Policeman! The writer lay in bed for three weeks, and ran up a bill of several guineas with his medical man, while that policeman paraded the Bazaar with his arm in a sling, and massed a little fortune of some fifty pounds, which was pressed upon him for his "bravery."

Thus, lest the reader should have the misfortune to be the victim of a similarly inglorious incident, he is strongly recommended to keep Chinese Lanterns for ornament and not for use.

With a few good photographs or pictures of Venetian scenes, any amateur of an artistic turn of mind could be able to arrange such a Stall as Fig. 2. The entire upper part is nothing but canvas and paint, and a capital effect can be secured without taking extravagant liberties with the rules of Italian Architecture. In the lower part, the pillars and arch may be indicated on the *flat*, or with a little extra trouble they could be done on the *round*. Bazaar Stall columns are not difficult to construct. A few wooden hoops round which the canvas is stretched (the joints being at the back) will make an excellent imitation. A small square box can do duty as a plinth, and fairly good capitals may be formed with cardboard. Elaborate Corinthian capitals need not be attempted, as they entail much work; if a

distinctly classic order is wanted, Ionic will be found the most useful, but for an ordinary Venetian Stall some fancy capital is suggested, as it is less difficult to indicate, and can be made quite as effective. The front of the Stall table could be painted or draped. Some drapery should always be introduced, if possible, as it relieves the rigidly artificial appearance of the Stall.

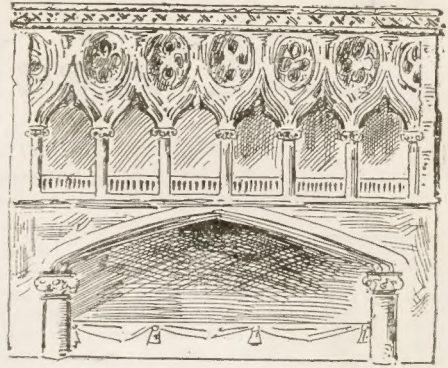


FIG. 2. Venetian Stall.

Fig. 3 may be classed among Japanese Stalls, but "Fantastic" is a more correct title. The whole decoration is very simple. The usual framework and tressles are set up, and the rest is almost child's play. A light frame should be made for the large fan, and this draped with art muslin. A few large Japanese Butterflies could be procured and fastened to it. The small fans may be the ordinary Japanesque ones; they should be arranged up the sides and along the top in an artistic but not too irregular fashion. Care should

be taken to hide all trace of the frame, as any sign of woodwork is very objectionable. For this purpose it may be well to wrap some light coloured fabric round all the wooden posts.

The front of the Stall might be draped, and a number of small Japanese ornaments should be purchased and hung up here and there to add a little character to the general effect.

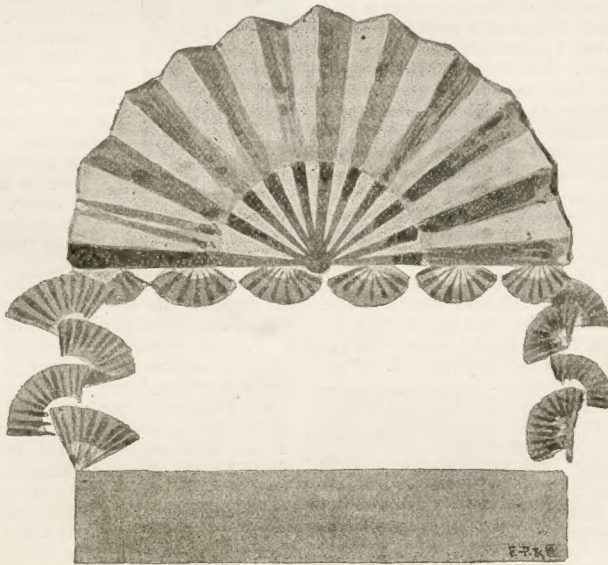


FIG. 3. Fantastic Stall Decoration.

(To be continued.)

STAMPS

Week by Week.

A Philatelic Causerie by PERCY C. BISHOP,

Joint Editor of the "STAMP COLLECTORS' FORTNIGHTLY;" Ex-Editor of "THE PHILATELIC JOURNAL"
and "PHILATELIC REVIEW OF REVIEWS;" Founding Member of the LONDON PHILATELIC CLUB.



ADVANCED collectors, whose specimens are of such rarity as to demand more than ordinary care in the handling, frequently find that the stamps in their albums become creased and otherwise injured by the mere turning of the pages. The Earl of Kingston, President of the London Philatelic Society—and who, it is pleasing to hear, is well over his recent indisposition—has come forward with the suggestion that our stamps should be placed upon the left-hand pages of our albums, instead of upon the right as is now the custom in all the high class albums. "Mounted thus on the left hand," says the Earl, "the stamps coming into view on the turning of a fresh leaf may be in a state of disarray, but can be quickly and easily rearranged in proper position as they lie before us, and once replaced they will remain *in situ*, unaffected by the moving of the succeeding pages, as the inspection of the collection is proceeded with." Lord Kingston's notion may be an excellent one, but I cannot honestly say that I see its advantages. But then I have not tried it. Lord Kingston has, and "is convinced that it is an improvement on the present method."

Perhaps the publishers of printed albums for collections will take heed and make their forthcoming editions "left-handed" accordingly.

—: o :—

The auction record has again been broken—the Philatelic auction record, I mean. A single stamp has sold under the hammer for £140, which is just £10 ahead of the "previous best" of the British Philatelic auction room. The stamp that commanded this tall figure was the 2d. Mauritius of the "Post Paid" issue, which is the exact counterpart of the very rare 2d. "Post Office" (see annexed illustration), except that the word "Office" on the left-hand side of the rarer stamp is replaced by the word "Paid." I saw this record breaking "lot" the other day in the hands of its purchaser, Mr. Theodor Buhl. A finer specimen I had never seen—unused, "gum" intact, "margins" good on every side



To almost every Philatelist the question at some time or other occurs, "What country shall I specialise?" To approach completeness in a general collection of all the countries of the world is now regarded as a hopeless task. A collector begins as a generalist, but invariably there comes a time when he sees the futility of attempting to make any headway in so vast a field. I am speaking now, of course, of Philatelists who are persons of moderate financial strength. To buy Mauritius first issue, old British Guianas, and the extremely scarce American "Postmasters' Issues" takes the purse of a millionaire. My advice to the would-be specialist is to hit upon some country that has been comparatively neglected by other specialists, but yet offers an interesting field for research and discovery.



Chili is a country that has been consistently neglected by the specialist on the ground of the supposed simplicity of its postal issues. But that idea is erroneous, for the early issues—the beautiful steel-engraved series—have many interesting varieties of watermark. Chili has had less issues of stamps than most other countries; one can buy a complete set of Chilean adhesives for about £2 or £3—it has never gone in for surcharging or postmarking stamps to order, and what is more shows no disposition to do so. And these are strong recommendations in Philatelic eyes.

Greece provides an interesting page in the stamp album; but, alas, these are decadent days, and stately Greece, of all the nations in the world, displays a tendency to flinch from Philatelic pockets that which the impoverished purses of the Grecian people fail to yield by the issue of stamps that are unnecessary for legitimate postal purposes! Still, the older issues of Greece are delightful study, and one can always combat the "gumpap" evil by adopting a plan that now finds much favour—i.e., collecting only the stamps issued up to—say 1885 or 1890.



I have mentioned two good countries, but there are many others which I daresay will suggest themselves to my readers. The prevailing craze just now is for Great Britain and, in America, for United States. These are both expensive countries, and British Colonies have been specialised and "plated" (an operation I must explain at some future time) to such an extent that they are beyond the reach of collectors of moderate means. Next week I shall point out a few more "specialisable" countries, and in the meantime shall be glad to hear from any readers who are seeking advice in this direction.

—:O:—

NEW ISSUES OF STAMPS.

*. Items for this department will be gratefully received from any Philatelic readers who happen to receive early information of new issues, or of impending changes in the postal arrangements of any country.

CEYLON has produced something of a novelty in postal stationery in the shape of a reply letter-card, which, from the description that has reached me, is evidently fashioned upon the plan invented by Mr. Francis Meridew, of Boulogne, who has so long pegged away at the British Postmaster-General in an apparently vain attempt to get him to adopt this very necessary article. And now Great Britain is beaten in the race by one of her own dependencies!

MAURITIUS is taking unto itself a complete new issue of sixteen stamps, the values being 1, 2, 3, 4, 5, 8, 10, 15, 20, 25, and 50 cents., and 1, 2½, 5, and 10 rupees. The stamps, I am told, will bear the inscription "Mauritius Postage and Revenue," and will, I suppose, be of the ordinary British Colonial type as printed by Messrs. De La Rue.

SELANGOR.—The new stamps announced for issue some months ago are now to hand, but so far I have seen only the 3c., which is in carmine and lilac, and bears a tiger's head, and the 1 dollar, which is of a large oblong shape, and gives a picture of several natives bestriding elephants.

No more is heard, by the way, of the scheme for federating the postal affairs of the various States which go to make up the Straits Settlement. This is an idea that would gladden the hearts of Philatelists, who are heartily sick of all the surcharged rubbish poured out by Perak, Johore, and Selangor.

TONGA, which is becoming very civilised indeed, has a new set of four adhesive stamps of the value of 1d., 2½d., 5d., and 7½d., and, as if these were not enough, three other values are manufactured by surcharging the 2½d. with the values ¾d., 1d., and 7½d.

HINTS TO BEGINNERS.

PERFORATIONS (Continued).

From my last article under this head the novice will have derived a fairly accurate idea of ordinary, or "machine," perforation. It sometimes happens—notably in the older issues of the Australian Colonies—that a stamp is perforated to a different measure on different sides. The horizontal perforation may be one thing and the vertical quite another. This we call compound perforation. A stamp perforated 12 at top and bottom, and 14 down each side will be described as "perf. 12 x 14."

Next to machine perforation the commonest method is the roulette, which varies greatly in style. Ordinary rouletting is effected by means of short cuts. Mexico, Brazil, Chili, Argentina, and other American States, as well as a number of European countries, have at various times issued rouletted stamps; although of late years most of these countries have shown a tendency to forsake rouletting for the more effective machine perforation. Other styles of rouletting are arc rouletting (as on some of the stamps of Brunswick), serpentine rouletting (employed for the quaint-looking stamps of the first issue of Finland), saw-rouletting (in which a jagged line is cut resembling the teeth of a saw) and rouletting on coloured lines, exemplified in the early issues of Luxembourg.

But with these scarcer styles of perforation the novice need not concern himself overmuch. For all practical Philatelic purposes there are but three styles of perforation—machine perforation, rouletting, and one other method which I am now about to explain—viz., pin perforation.

Pin perforation is exactly what its name implies. It is simply a piercing of the paper upon which the stamps are printed by a series of pins, or, to be exact, needles. The difference between machine and pin perforations is this,—that each needle used in machine perforation punches a small disc out of the paper, while in pin perforation a hole is simply made as a pin must make it, by pushing the paper aside. Prick a row of holes in the margin of this copy of *Hobbies* with a needle or pin, and you will have a perfect example of "pin perforation."

(To be continued.)

BRUNEI STAMPS.—The *Straits Budget* remarks as follows on the issue of Postage Stamps by Brunei:—"Following in the wake of older countries, Brunei has now stepped into the Philatelic world, having produced an entirely new set of stamps. Sets of these are now obtainable in Singapore, and, having been shewn a set, we cannot say that they anything like approach those excellent works of art, the stamps of British North Borneo."

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PHOTOGRAPHY

for Amateurs

NOTES OF THE WEEK.

MANY members of our Royal Family are Amateur Photographers, and with them the Hobby is a great relaxation. H.R.H. the Princess never travels without a camera, and her daughters are all, we believe, followers of the "black art." Quite recently the Duchess of Fife has given permission to the Editor of *The Kodak News* to reproduce several Photographs taken by her with a No. 1 Kodak. These pictures include a portrait of "His Grace the Duke of Fife," "Lady Alexandra Duff at East Sheen Lodge," "On Board Yacht off Naples," "View at Mar," and "East Sheen Lodge."

At the Hackney Photographic Society's Exhibition, which opens on the 19th inst., a silver medal is to be awarded for the most ingenious Photographic contrivance exhibited; this surely will be a chance for the "Man with a Hobby."

The Photographic Society of India announce their Eighth Annual Exhibition, to be held in February, 1896. They have made arrangements with Mr. R. Child Bayley, secretary of the Royal Photographic Society, 12, Hanover Square, W.C., to act as their agent for Great Britain. He will supply prospectuses and due particulars, and has undertaken to collect some of the best British Photographs of the year to send out on loan. If not too bulky, British exhibits will be received by Mr. Bayley up to the 23rd inst., and sent out and returned to the exhibitor free of cost.

It is said that the highest price ever paid for a Photographic negative, offered for sale at auction, was a cabinet portrait of the Prince of Wales in Masonic clothing. This negative was purchased by Messrs. Marion & Co., after much spirited bidding, for £115.

Talking about selling Photographic negatives, we know a gentleman, who at the time had only taken up Photography as a Hobby, that sold a negative to Messrs. Pears & Co. for the sum of £60, and another case in which £300 was given by Messrs. Fry & Co., the Chocolate Manufacturers, for three Photographs, which were afterwards used for advertising purposes. The artist in this latter case was interested in a Photographic business, but the negatives that he sold were the result of his practising Photography as a Hobby at home.

Mr. George Davison, writing in the *American Amateur Photographer* upon definition, has something to say about Pinhole Photography. He writes:—"There are many methods of making the pinhole aperture, either in a blackened card or thin metal foil, or in brass. Thin foil may be fastened between two thin cards, which have had a small $\frac{1}{4}$ inch hole made in the middle of them, and then, or before using the foil, a hole may be punched in the foil by using a needle cut through at any point in its length. My own instrument consists of a bar of thin brass, having holes ranging from $\frac{1}{16}$ inch to $\frac{1}{8}$ inch in length along. Any one of these sizes can be brought to play by sliding the bar along in grooves until the particular hole is over the central opening, the whole being attached to a special front, and having a hood acting as a shy shade to shield extraneous rays from the opening."

A very satirical paper, entitled "Some Idle Thoughts on Photographic Societies," was recently read before the members of the Photographic Club by Mr. W. D. Welford. There was much in the paper that was true, but we venture to think that the following classification and description of (as Mr. Welford would have us believe) typical members, is not likely to advance Photography. He writes:—"I find myself drifting into the study of the individual in order to define the inter-community, and upon the principle of 'tell me the company you keep, and I'll tell you what you are', we may get an idea of the Society through its members. Jotting them down roughly, they classify into the following species:—

The Novice; The Know it all.
The Man with a grievance; The Orator.
The Old-style Professional; The Process-Monger.
The Artist; The Specialist.
The Quibbler; The Please-all.
The Wit and the Frivoler."

Mr. Welford has affected the style of Jerome K. Jerome, but, although cleverly written, he has overdone his sketches. Many of them are forced, and all are far fetched.

The *St. James' Gazette* says that the latest thing in Photograph frames is made of oil canvas stretched tightly on a frame and then painted with some design of flower or berry. The difficulty is to find something original.

The writer goes on to say, in order we suppose to show his originality, "We were much struck the other day with the possibilities that the spindle-tree seed vessels present for this kind of decoration. Their colour, a soft faded rose, and their shape are alike uncommon, and when their waxy capsules spring open to reveal the ripened orange-coloured seeds inside, nothing better for decorative purposes could be desired."

Mr. G. A. STOREY, A.R.H., has been reading a paper at the Camera Club, entitled, "Photography from an Artist's Point of View, its Use and Abuse." In the course of his remarks he said:—"From Photographs he drew the conclusion that Photography was the most perfect copy possible, but still a copy, and for this he valued it, and thanked it with all his heart. Photography was a copy, but Art was invention. * * * * Art and Photography were of the greatest service to each other; but Photography could not trace the footprints of the beautiful if Art did not leave these footprints in its track, nor could it make its pictures so perfect were it not for the lessons of Art."

Mr. Chapman Jones, F.I.C., F.C.S., writing upon Lantern shows after describing the various illuminants, refers to the use of oil and says:—"The chief disadvantage of multiple wick lamps is that one can always count the number of flames on the screen by dark streaks extending from the top downwards, according to the number of spaces between the wicks. A two-wick lamp gives one streak, a three-wick lamp gives two side by side, and so on. This defect is less noticeable when a slide is in the Lantern, but even then it can generally be traced. A reflector behind the flames can sometimes be arranged so that it casts a little more light on to these darker places, but we do not think anything more than this can be done, unless, indeed, so much light is sacrificed that what remains is too little for general purposes."

We have before us the winter's course of lectures to be given upon Photography at the Polytechnic Institution; the course includes, Practical Classes, Process Engraving, Art and Technique in Photography, Photographic Printing, Enlargements, Process Work, &c., &c. We believe that the students of the Polytechnic School of Photography and the branches affiliated thereto number considerably over 500. Many of the staff of teachers are men who have left the ranks of the amateur, or Hobbyist, and taken up Photography as a means of livelihood. The success of this school is entirely due to the energy, ability and foresight of Mr. Howard Farmer, F.C.S., and of course the commercial acumen of Mr. Robert Mitchell, the Educational Director of the Institution.

Our readers may not know that Messrs. Thos. Cook & Sons, the well known tourist agents, have a library of Lantern Slides, numbering, we are told, 300,000, and including views of all the principal cities and places of interest in the World. To their clients, these slides we understand are loaned *free of charge*. The Association for the Promotion of Home and Foreign Travel have started something of the same kind, and loan slides illustrating their several organised trips for a small fee. These slides may be found very useful in getting up entertaining evenings for the people, and will do much to enlarge their knowledge of "furrin parts."

PRIZE Competitions

It is our intention that all Competitions which will be announced from time to time in this column shall be decided by the skill or ingenuity of the Competitors, and not be in any way dependent on chance.

BAZAARS.

All suggestions for the best Bazaar Side Show must be sent in to-day (November 16). The Prizes are Ten Shillings and Five Shillings, and in deciding the Competition the novelty and practical character of the suggestions will be chiefly taken into account. Paragraphs must not exceed 200 words in length.

FRETWORK.

Three Prizes for the best Midget Photograph Frames made from *Hobbies* Presentation Design No. 1 are offered:—

First Prize, A Treadle Fretwork Machine, with Nickel Plated Tilting Table, Dust Blower, and Emery Wheel.

Second Prize, A Finely Nickel Plated and Polished 14-inch Hand Fretsaw Frame.

Third Prize, One Gross of the best Fretwork Saw Blades.

The choice of wood, method of cutting, and all matters relating to the actual work are left entirely to Competitors. The Frames, for example, may either be polished or left plain. All Frames should be packed securely, in a cardboard box if possible, and must have the name and address of Competitor *clearly written on a label which must be securely attached to the Article itself*. Frames sent in for Competition will be returned, if desired; for this purpose a fully addressed and stamped label must be enclosed. In no case can Articles be returned unless sufficient stamps are sent to cover postage. Parcels should be marked "Frame," and must be received at our office not later than November 23rd.

PHOTOGRAPHY.

We will give every month a prize of Ten Shillings for the best Photograph, not to exceed 7½-in. by 5-in., and Five Shillings for the second best. The choice of subject is left entirely to the Competitor. Photographs cannot be returned, and we reserve the right to reproduce any of them in *Hobbies*, if thought desirable. Photographs for Competition will be received up to the last day of each month, and those for the first Competition must be sent to our office not later than November 30th, marked "Photo."

LANTERN SLIDES.

For the best Pen and Ink Sketch of a set of three original humorous Magic Lantern Slides we will give Ten Shillings, Five Shillings being awarded to the second best. The subjects are left entirely to Competitors. Sketches should be full size, and should be drawn in Pen and Ink only. The Prize Sketches, if of sufficient merit, will be reproduced in *Hobbies*. Mark "Slides," and send in by December 7th.

* * Further Competitions will be announced in next week's issue.

NOTICE TO COMPETITORS.

All Articles, Sketches, etc., for Competition should be addressed to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. The name and full address of Competitor must in every case be sent.

NOTE:—No correspondence can be entered into with Competitors, and all awards made will be final.



.. FRETWORKING ..

SCROLL-SAWING, INLAY AND OVERLAYING

CHAP. V.—SANDPAPER—NAILS—SCREWS.



IN the subject of Filing and Sandpapering only a few remarks need be passed. Fretwoods are now supplied in such a beautifully smooth condition that planing and scraping are stories of the past.

A small File is still necessary for trimming the under edges of the work, and for helping to remove any slight faults which have occurred in the cutting. These Files are very cheap, and may be had round, flat, square, triangular, and semi-circular in section. In size they are from four-and-a-half to six inches long.

With regard to Sandpapering a word of advice might be given. The fact is that many Fretwork Articles come to grief in this process. Friction happens to be necessary, but too great friction may do damage, and therefore the work must be gone about calmly. Use a sheet of moderately fine Sandpaper, and then finish off with Glasspaper.

Cork pads are the most convenient for wrapping the sheet round, but a square block of wood will serve the purpose. It is hardly necessary to explain that the rubbing should always be *with* the grain of the wood, except when very fine Glasspaper is being used, in which case a circular motion may be adopted.

Sandpaper should not be applied without the pad, as it would have a tendency to round off the sharp edges of the Fret.

Another plan which is already favoured by a good many is not to Sandpaper the wood, but to *wood the Sandpaper*. In other words, to lay the sheet flat on the bench, and rub the article on it. With small Ornaments this is a quicker and more effective method, as one has increased power over the Article. There are, of course, disadvantages, and even more care must be taken than with the former plan. When the Fretworker has started, and once got fully into the stroke, he gets excited and rubs furiously; suddenly something slips, or the tip of a finger gets accidentally sandpapered instead of the wood, and away flies the Article to a corner of the room, there to lie bruised and battered, and thoroughly shocked at the extravagant language in which it is being apostrophised.

Such misfortunes will occasionally happen, but they are usually one's own fault. Sandpaper in moderation; rub firmly, but not too quickly, and there need be little danger of accidents.

Readers with Treadle Machines or Turning Lathes may possibly have invented some ingenious methods of "sandpapering by machinery," by wrapping the sheet round a cylindrical piece of wood, and then setting the whole arrangement in motion. Doubtless great speed and power could be obtained by such plans, but it is questionable if they would do the work better.

FIXING.

In fixing up Articles of Fretwork, the neatness and exactness of the amateur can be seen quite as much as in cutting out. A badly finished piece of work spoils the entire effect, and the Ornament cannot be awarded an important place in any room. In fitting together then, two considerations have to be noticed—strength and appearance. A neat joint is useless if it will not endure, and no firm joint can receive praise if it be clumsily formed.

Where one piece of wood has to be fixed at right angles to another, as in the case of a Wall Bracket, the most efficient method is that of



FIG. 19.

the "notch and hole." (See Fig. 19.) If the notches are made to fit tightly, and good glue then applied, neither Screws nor Nails need be used,

except in the case of very large Brackets.

The Support cannot be fastened to the Shelf in this way, as the notches would be visible; but if glue is used, and a fine Nail driven in from below, it will be held secure.

Brass Nails are preferable to the ordinary Wire ones; they are more expensive, but are better made and stand longer. Further, when it is absolutely impossible to prevent the Nail from being seen, a Brass head is less objectionable to the critical eye.

SCREWS.

Whenever special strength is required, Screws should be used. These can now be obtained of a very fine quality, and in convenient sizes; and when driven in straight (as of course they always should be) are of great durability.

In large pieces of work Screws should never be omitted, as the heat of the sun or a strong

fire may cause glue to give way, and if the wood threatens to warp, mere Nails will not be sufficient to hold it back. With small Ornaments, however, there is less danger in this respect.

NAILS—A HINT.

In fixing with Wire Nails, a general hint might here be thrown out. It is not always the best plan to drive them in at right angles to the wood.

The method as shewn in Fig. 20 will often be found very advantageous. Sometimes, as all know, two pieces of wood are seized with an



FIG. 20.

unaccountable passion to be divorced. It may be that the wood desires to warp, or that there is a heavy strain on one piece, or that the rays of the sun are having a magnetic attraction. In any of these emergencies, a Nail driven straight in will keep but little hold. Having no screw with which to cling to the grain, it will slowly loosen, and gradually become useless. With the Nails driven in as shown, however, a wedge is formed. Although the wood struggles to move, it cannot, as the two Nails are antagonistic to each other, and both must be pulled in different directions in order to be taken out.

This seems a small point, but it is worth noting, as it applies to much more than mere Fretwork Ornaments.

In fixing any Article to a plaster wall, where a firm catch can seldom be had, the method will be found very useful.

PINS.

A very fair substitute for the Brass or Wire Nail is an ordinary Pin. In Fretwork it frequently happens that a Nail about a quarter of an inch long or even less is wanted, and a common Pin, broken off the desired length from the point, is the best article which can be secured. Pins have three great advantages—they can be procured in almost any degree of fineness, they can be cut the exact size which is wanted, and when driven home there is no head visible.

No suggestion is here made that large Cabinets or massive Tables should be held together with pin points! The line is drawn somewhere. But a case often occurs when one shrinks from trusting solely to the adhesive power of glue, and yet where a Screw or Nail would spoil the appearance of a delicate Article. With such small Ornaments, Pins may be used with safety, and with no little effect. When driven home, rub a File over the place where the "head" is supposed to be, smooth with Sand-paper, and it is safe to say that not much trace of the Pin is left. With Toy Furniture, Card Receivers, Photograph Frames, and Ornaments where it is desirable to hide the method of fixing, these Pin Points will be found very suitable. (To be continued).

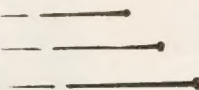


FIG. 21.



Our Advertising Coupon Scheme.

This Scheme, as fully described in last week's issue of *Hobbies*, is now in operation, and we trust that numerous readers are already taking advantage of what amounts to a Cash Bonus of Threepence.

For the benefit of those who have now for the first time secured a copy of *Hobbies* we again draw attention to this unprecedented offer.

In future, every copy of our Weekly Presentation Supplement will contain a Coupon which, by special arrangement with our Advertisers, will, under the conditions to be detailed, be accepted by the Firms whose names are printed on the back of the Supplement as an equivalent of Threepence in Cash.

Each Coupon will be numbered and dated, and will remain good for three months. The Coupons will be accepted in payment not only for any articles specifically mentioned in the advertisements in our pages, but for any goods sold by the Firms who have agreed to take them.

The one consideration of any importance is that not more than five per cent. of the amount of any one order shall be paid in Coupons. For example, if it be desired to purchase goods to the value of 5/-, it would be sufficient to send a postal order for 4/9 and one Coupon; if the bill came to 10/-, two Coupons and a postal order for 9/6 would be required; and if the amount were 20/-, a postal order for 19/- and four Coupons would need to be sent. Should less than five shillings worth of goods be required, the sender of a Coupon will be entitled to a discount of one halfpenny for every shilling.

It should be clearly understood that when, for instance, goods to the value of 20/- are ordered, it is not necessary for the purchaser to buy four numbers of the current week's issue of *Hobbies*. All back Coupons should be preserved. Each is available for three months, and may be used at any time during that period.

Further details of the scheme, with a list of Firms who have agreed to accept Coupons, will be found on the back of the Weekly Presentation Supplement. A Table shewing the system of discount from One Shilling to a Pound is also given.

The genuine nature of this offer to readers may be seen at a glance. It practically means that an actual sum of Threepence is placed in the hands of every reader, and when it is taken into account that each week the penny copy of *Hobbies* contains a Supplement which in no case will be under threepence in market value, it will be seen that the real worth of a single number of *Hobbies* is SEVENPENCE, and that every reader thus secures a return of 600 per cent. for his outlay.



No. 5. FRETWORK INKSTAND, WITH CARD BACK.

With some care and neat handling a very effective ornament can be made from this Pattern, and as Inkstands are necessary articles in every household, there is no reason why it should not be as useful as it is ornamental.



In selecting wood for the Design, a point which must be considered is whether the article is to be for every day use, or merely to be cut out and placed on some side table as an ornament. The reason is obvious, for it is perfectly evident that an Inkstand which is constantly being used must sooner or later become soiled, and the wood chosen should be as dark as possible, say Walnut or Rosewood. If, however, it is intended to have an article which will only be called upon to fulfil its desired purposes on state occasions, then any variety may be selected, and a light wood will be found to give a more pleasing effect. In this case a light colour should be used for the Back and the upper Stand, while a dark tint is chosen for the lower Stand and Toes. It will be safer to use three-ply wood for the Back, lest it may show any tendency to warp.

Throughout the work the actual Fretcutting is so simple that instructions are almost unnecessary. The chief care must be taken in cutting the outline of the Cards. It will be noticed that to denote *overlapping*, lines are drawn on each Card which is supposed to go underneath. A thicker Saw blade should be used for this, and precautions must be taken not to allow it to go too far, or the result will be to greatly weaken the Back.

There are only two satisfactory methods of indicating the Card Figures:—

1. **OVERLAYING.** When this is done, the Figures should be cut from $\frac{1}{16}$ inch wood, and firmly glued on in the position shewn. If the background is dark, the "Clubs" and "Spades"

should be of White Chestnut, and the "Hearts" and "Diamonds" of some such wood as Satin, which is distinctly clear from White, and at the same time shows up well against Mahogany or Walnut. If, on the other hand, the Back is White, Ebony or any black stained wood should be employed for the dark Figures, and Padouk or some other warm and richly-coloured material for the red ones. The Figures should be cut with great accuracy, and must be glued on *straight*.

2. **INLAYING.** This is certainly the more workmanship-like method, but it is also the more difficult. The difficulty lies in the fact that in Overlaying if a Figure be spoiled it can easily be replaced, while with Inlaying a serious error can only be overcome by beginning the whole work over again. The same varieties of wood may be chosen, but the Inlaid pieces must be of the same thickness as the Back. An easy method of Inlay work is to cut out all the Figures, as in ordinary Fretwork, with the finest Saw Blade procurable; then to stain them red and black respectively, and glue them into their former positions again. This plan may be recommended to those who work with the Hand Saw, and who are desirous of Inlaying the article.

To give the ornament greater stability, a double Stand is provided. The upper one is cut out as shewn, but the lower one (of which only the outline is given) is solid. Both should be firmly screwed together from below, and the Toes then fixed to the under Stand.

[Additional copies of this design may be had, price 3d. each, on application to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. The Presentation Supplements will be given during the current week of publication only, and will not be supplied with back numbers of *Hobbies*.]



No. 6. CARVING PATTERN. "ADAMS" FRAME.
For Mirror, Photograph, Miniature,
Picture, or Plaque.

The above sketch is a miniature of the full-sized Pattern for Carved "Adams" Frame, which will be given away with each copy of next week's issue of *Hobbies*.

Hobbies

and their

Advantages.



It has been remarked that 'Hobbies should rank amongst the necessities of life,' and certainly a world without them would be a dreary wilderness. There is something constitutionally wrong with the man who professes to have no Hobby. If he devote himself solely to business, and spend all his so-called spare hours at the office desk, he is altogether an uninteresting member of society and can do little to add a touch of brightness either to his own life or the lives of others. On the other hand, the idler who wastes his time in mere desultory pleasures is nothing but a bore. He is more than uninteresting; he is mischievous.

Only the true Hobbyist is the really useful man, and the one whose acquaintance it will benefit us to cultivate. He is the man who can devote business or professional hours to their respective duties, and who can then throw off the cares and worries of the day, and interest himself in some useful pastime which will not only be a source of pleasure and instruction to himself, but to others in his home.

What constitutes a genuine Hobby? Is it business or pleasure, study or amusement? In reality it is none, and yet all. A man's daily occupation cannot be called a Hobby. Whatever his work be, he may be passionately attached to it, but it is incorrect to term it a pastime. To many, Music is a fascinating Hobby; but the professional musician seeks some other recreation when his day's work is over. Similarly, Art is a recreative pleasure which thousands enjoy, but it is also a profession, and those who practice it must look elsewhere for relaxation. Many of our most eminent painters, for instance, including Sir Frederick Leighton, Mr. Alma Tadema, Mr. W. Q. Orchardson, and others, have adopted the sister Art Music as their favourite Hobby.

Hobbies do not require to be pastimes which never afford a monetary return; indeed there are few Hobbies which cannot, in some way or other, be turned to pecuniary advantage. No actual means of livelihood, however, can be called hobby-riding. The mere fact that one's income depends on a certain pursuit—no matter how enjoyable—robs the work, not necessarily of personal interest and attachment, but of that perfect freedom from constraint which the absence of financial considerations would grant it. Certainly paying Hobbies are strongly recommended, but whenever a morbid desire for "money" creeps in, the pastime is turned to a business speculation, and its true enjoyment as a recreation will vanish.

Passing pleasures which are of brief duration and which leave no good results behind them are not Hobbies; they are mere amusements, commendable in their way, but not to be advocated as habitual pastimes. They can

never give that rest and satisfaction to the mind which a genuinely useful Hobby undoubtedly affords. Hobbies are intended to provide relaxation from business or labour, but they should never merely amuse. They ought to elevate and instruct; and to do this, care, attention, and study are necessary. Stamp collecting, for example, is a widely patronised Hobby, and one which with due attention will prove to be a historical and geographical education. Photography, Electricity, Chemistry, Astronomy, and other Sciences are also pastimes which are of great advantage as teachers. All classes of metal and wood work afford much more interest and instruction than simple pleasure, and are highly recommended as Hobbies to those who are engaged in brain work during the day. Literature is a royal Hobby, and one which, it is pleasing to reflect, is rapidly being taken up by many artisans whose hands are employed throughout working hours, and whose heads are thus clear for reading and study at night. One of the most fascinating and useful Hobbies, and one which young men could with prudence adopt, is to make a slow but careful collection of standard books, and thus gradually acquire a small library.

Hobbies are not *selected*. Why a man adopts a certain one he cannot tell. It strikes his fancy, attracts him, and then he falls in love with it and weds it. Thus Hobbies should come; and if so, they are usually lasting. A "selected" Hobby, or a merely whimsical one, will not endure long; it will die out, as there is no rooted and genuine love to sustain it.

Hobbies are of universal advantage; to the busy man they afford rest, and to the idle man they give work. The brain worker and the artisan can each find one to suit his special needs; all persons, male and female, old and young, rich and poor, strong and weak, should possess a Hobby of some particular sort. Such a possession is one of the surest signs of a healthy body and mind, and it must always be remembered that the enjoyments derived from an interesting pastime are by no means confined to the owner, but may spread over a wide circle of relatives and friends.

BENT IRON WORK.

TOOLS and MATERIALS.

PLIERS, SHEARS, WIRE CUTTERS, BRADAWLS, VICES, ANVILS, SOLDERING MATERIALS, &c.

Strip Iron, Brass, and Copper.

ALL FORMS OF FRAMEWORK MADE TO ORDER.

DESIGNS.

The Eclipse Book of Artistic Designs for Bent Iron Work, containing 14 Patterns, with each one of which is given clear instructions.

PRICE ONE SHILLING.

J. H. Skinner & Co., H Dept., Dereham, Norfolk.

7s. 6d. a Week Salary

And upward offered to both sexes (for spare moments) everywhere. The work may be done evenings. Apply, enclosing addressed envelope, to M. TRUSCOTT & Co., 5, Sherwood Ter., Chelston, Torquay.



CHAP. V.—SINGLE LANTERNS AND OIL LAMPS.



E have thought that this chapter might well be of an elementary character, and one that would instruct and interest boys who have already made up their minds to go in for the Magic Lantern as their particular Hobby this winter.

The boys' Lantern may be had in various shapes and sizes, but we are going to surmise that our boy operator is able, by the kindness of parents or friends, to have such a Lantern as the one we illustrate. This will cost from 25s. to 30s., and should be made of Japanned Tin, which is strong and serviceable. The Lantern has a 4-inch condenser, achromatic lens, and a 3-wick lamp. The lamp burns ordinary paraffin or petroleum oil, and the three wicks are, as a rule, side by side, with screw attachment for raising and lowering each wick, identical with the ordinary table lamp. These wicks give a good light if properly trimmed, and if the surface of the lamp, which at the same time is the oil reservoir, be kept perfectly free from oil, there will be no unpleasant smell. The lamp is enclosed in what may be termed a combustion chamber, which has a piece of clear glass in front and a hinged metal back, with a sight-hole fitted with a disc of blue glass; through this the flame can be watched without fear of endangering the eyesight. The lamp and this combustion chamber work in grooves in the body of the Lantern, so that the lamp may be drawn backward or pushed forward without affecting the flame. It will be noticed that the Lantern has a large chimney, which provides the necessary draught.

The condenser in these Lanterns consists of two carefully ground plano-convex lenses fitted in metal rings. The curved surfaces face each other almost in contact, the flat surfaces forming the back and front of the condenser.

It is not necessary for our purpose to very fully describe the lens. Suffice it to say that the lens is a combination which gives good definition, a flat field, and brilliant illumination.

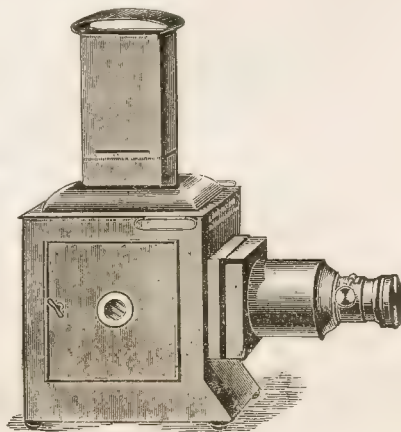
It will be noticed that the front of the Lantern is fitted with a draw tube, and that the lens has a rack and pinion attachment for focussing the picture on the screen.

We have said enough about the Lantern generally, and our remarks will apply to practically any form or size of Lantern in which an

oil lamp is used. The points to be remembered are:—(1) good oil, (2) carefully trimmed wicks, (3) freedom from draughts (4) scrupulous cleanliness, (5) to burn the wick some little time before the exhibition commences, and (6) to keep cool, never to hurry, and to work systematically.

In preparing for a Lantern Exhibition, whether in the house, a school-room, or a hall, take care to have the Lantern placed upon a stand or table that is perfectly firm, and which should be used only by the operator, for his Lantern, Slides, and other *impedimenta*. Get the Lantern in thorough working order *before* the audience assembles, whether few or many. Allow no one to touch the Lantern; the operator can himself attend to the lamp and put in the Slides.

We will suppose that the Lantern is in its place and ready for use; the next work is the screen, and for the purposes of illustration we will premise that the exhibition is to be given in a private house. A large screen will not be necessary, and the readiest to hand is doubtless the domestic linsheet. This may be rigged up to the curtain pole and strained tight by tapes tied to screw eyelets in the floor; care must be taken to have no folds or seams showing. With this sheet properly strained a fairly well illuminated picture may be obtained, but not the best result, for the simple reason that to a certain extent the sheet is transparent so



much so, indeed, that it is often a common practice to seat part of the audience at the *back* of the sheet, or in houses having folding doors to strain the sheet across the opening, and so let those in the "back parlour" see as well as those in the "front." This plan, however, is done at a dreadful loss of brilliancy.

The best screen for a private house can be made of white paper, technically known as "lining paper," or, better still, cartridge. In order to have a serviceable, and at the same time, light and portable screen, make a wooden frame 4 feet 6 inches square; the sides of the frame need be only 3 inches wide $\times \frac{1}{2}$ inch thick, carefully halved together at each corner. Over this frame stretch the paper or any opaque substance which has a white smooth surface. This will permit of a disc 4 feet in diameter being shown upon it, and such size is amply large enough for private exhibitions. Such a screen as we have described may be hung from the ceiling, set up on a couple of chairs or the top of sideboard, table, bookcase, &c.,—in fact it can be placed anywhere without interfering or upsetting the furniture. We should, therefore, strongly advise our readers to set to work and make such a screen.

And now for our exhibition; we have the screen rigged up, plumb with the face of the lens, the Lantern carefully set upon a firm stand, and the lamp burning steadily. Our first step is to obtain a clear disc on the screen,—not always an easy matter. The draw tube must first be put into operation, and we shall soon find that we are shewing a disc of about the desired size, but with a halo round the edges. We must now draw back the lamp and Lantern until the halo disappears and the disc is clear and equally illuminated all over. We are ready now to commence operations with the assistance of a carrier. The most general form is the "Lightning" carrier which takes two Slides; whilst one is being shewn it is charged with the second, and so soon as the Slide is to be withdrawn the carrier is pushed forward and the second Slide is in position. The next time the operation is reversed. Directly the Slide to be shown is projected on to the screen, charge the second half of the carrier and so be ready for action. All Slides have to be inserted in the carrier upside down, and with the

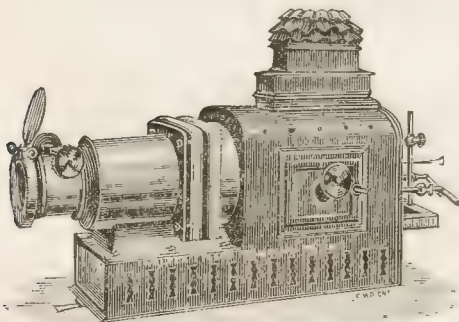
front of the picture to the condenser. The rays of light pass first through the condenser and the Slide, and are then projected on to the screen by the lens.

Here again we would give the advice not to hurry or flurry. See that your Slides are perfectly free from dust—and clean, remembering that the lens of a Lantern acts as a microscope, and that a speck of dust, a hair, or the impress of a greasy finger will terribly spoil the picture when thrown upon the screen. Never show a Slide upside down; it may cause momentary amusement, but merely proves the carelessness of the operator. When showing Slides for a lecturer or demonstrator, be careful to arrange with him as to the cue, or have some signal which shall attract the attention of the audience as little as possible. When operating and describing the Slides, or talking about them, be careful to finish with one Slide before putting in another. Always give your audience time to look at the picture. As a rule they would rather look at the pictures than listen to a description of them. However simple the pictures that are to be shown, be sure and know something about them before you put them into the Lantern. If boys when they start the Lantern would work upon some definite line they would give much more pleasure. For instance, take the well-known series illustrating the "Tale of a Tub." If the operator will only be at the trouble to learn the doggerel lines, he will find his audience much more interested than they will be if he only shows the pictures and hesitatingly gives out the line it is supposed to illustrate.

Our young folks can make the most delightful evenings for one another with the Lantern. Pen and ink sketches can easily be transferred on to glass. Botanical and entomological specimens may be shown, and a series of zoological Slides will keep not only children but grown-up people amused for a whole evening. Make your audience interested; ask them to give a name to the animals, and even with children of cultured and well-educated parents some of the most comical answers will be given.

We shall be pleased to help our readers in any and every possible way, and although we have spoken throughout this chapter of "our boys" and the Lantern, it is certainly a Hobby "for amateurs of both sexes."

MAGIC LANTERNS AND SLIDES.



The Best and Cheapest House in the World for Lanterns and Slides is WALTER TYLER'S. Thousands of Slides on Sale or Hire at lowest prices. Many Hundreds of Lanterns second-hand; great bargains. The Helioscopic Lantern, the best made. Second-hand Lists and Small Catalogues post free. Large Catalogue, 12 stamps.

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THE INDUCTION COIL. HOW TO MAKE AND USE IT.

CHAP. III.



Of the practical pieces of apparatus, the actual working Battery claims the premier position, for without its aid nothing whatever can be accomplished. There are a great many different forms which have been invented from time to time, but for the present purpose, perhaps that known as the

Bottle Bichromate Battery is the most suitable. It gives a high voltage of about two Volts per cell, while the internal resistance is reasonably low. The cell consists (as illustrated in Fig. 13) of a glass containing vessel, with a large bulb or globe for the liquid, and a long wide neck into which the Zinc plate may be drawn up out of contact with the solution when the Battery is not working. The glass cell or bottle is fitted with an ebonite top through which pass the bottom screws of the terminals connected with the two long Carbon plates which reach nearly to the bottom of the globe. Between the two Carbons is the short Zinc plate, fitted at the top to a brass rod which slides through the ebonite cover; this rod also carries a terminal. In the theoretical Battery cell only acidulated water was employed as a solution, but for practical working an Oxidising agent must be introduced. In this case it will consist of Chromic Acid, obtained from Bichromate of Potash and Sulphuric Acid; hence the name. The action of Sulphuric Acid upon Zinc is to dissolve the latter, forming Zinc Sulphate, and liberating Hydrogen Gas. This gas, being liberated at the Zinc plate, travels directly to the Carbons, and is practically the means of transit of the current from plate to plate. But it has a tendency, when arrived at the Carbon, to cling to and cover it, thus seriously checking

the current. The Oxidising agent, already referred to, removes this obstacle by combining with the Hydrogen to form water and other harmless compounds. As this form of cell is somewhat difficult to construct, it had better be bought ready-made from an electrician. It is important that the Zinc should be well amalgamated, and that it be invariably drawn up out of the liquid when the Battery is at rest. As the solution will be prepared by the reader, it will be necessary to give a recipe for it. Formerly, Bichromate of Potash and Sulphuric Acid were dissolved in water, and Chromic Acid thus liberated. But Chromic Acid itself may now be bought at from 9d. to 1/- per lb., and is very much to be preferred to the Bichromate, which is liable to form a very hard crystalline mass of Chrome Alum in the bottom of the cell. The following recipe gives the proportions by weight, and is due to Mr. Bottone.

Chromic Acid	3 parts.
Sulphuric "	4 "
Chlorate of Potash	$\frac{1}{2}$ "
Water	20 "



FIG. 13

If the other ingredients are taken in ounces, then 20 ounces of water may be reckoned as 1 pint. A word or two of caution may not be out of place with reference to the Sulphuric Acid. The Commercial Acid, which is sufficiently pure for the purpose, is, perhaps, more generally known as Oil of Vitriol. Care should be exercised in not allowing it to come into contact with the skin or clothes, which it will readily char, owing to its corrosive action upon all animal and vegetable tissue. A glass stoppered bottle should be used for keeping it in, and this had better be labelled "Sulphuric Acid, Poison."

The quart size cell should be chosen, and the number of cells may vary from one to six. The greater the Battery power employed the

more brilliant will be the effects obtained from the Coil, but it is not advisable to overdo it, and six one-quart cells will be a fairly high maximum. These may be experimented with, connected in series or in parallel, as already explained. A larger Battery would only lead to the serious overheating of the Coil, and probably result in the destruction of the insulating covering of its wire.

The next thing to claim attention is the Bobbin on which to wind the wire, to make up the Coil proper. The form of this Bobbin or Reel is too well known to need description. It may be made of boxwood, mahogany, or ebonite. As boxwood cannot be obtained in very large pieces, mahogany is mostly used for the larger sizes. Ebonite, of course, is much more expensive, but it is a splendid material for the

purpose. In Fig. 14, A and B illustrate Bobbins with round and square flanges respectively. When round flanges are preferred, their circumferences should be grooved to receive pieces of cord or gut to bind the Bobbin down to the base-board. A small straight facet may



FIG. 14 A.



FIG. 14 B.

also be cut, on which the reel will stand steadily.

As the size of the Bobbin determines the size of the Coil, it will be as well to go into the matter somewhat fully. A very good length would be 6 inches overall, or even a little more; with flanges, if circular, 4 inches in diameter, or if square $3\frac{1}{2}$ by $3\frac{1}{2}$ inches. The substance of the tubular part, on which the wire is wound, should be as thin as is consistent with the requisite strength, say $\frac{1}{16}$ of an inch, in order to make the axial hole as large as possible. The flanges, on the other hand, should be pretty substantial. Empty Bobbins are sold ready made at most Electrical shops. Having obtained them, two small holes must be drilled in one of the flanges, one of which should be as low down as possible, so that a wire may be passed through and wound directly on the Reel; the other hole may be a little higher up, so that the same wire, after being wound two layers, may be passed out level through the same flange. These two holes are to be about $\frac{1}{8}$ inch in diameter, and had better be drilled on opposite sides of the mouth of the hole running axially through the whole length of the Bobbin. Assuming the Reel to be made of wood, it will be necessary to give that part which is to be filled with wire two or three good coats of insulating varnish, letting one coat get thoroughly dry and hard before the next is applied. Very good varnish for this purpose is made by dissolving shellac in spirit of wine; six ounces of the best orange shellac to about a pint of spirit. Ebonite Bobbins do not require varnishing, the material itself being a sufficiently good insulator. In the operation of winding it will be found very convenient to possess a pair of bellhanger's pliers, which are suitable for both cutting and holding wire.

(To be continued.)

Photographic Hints for Amateurs.

HALATION.

Halation is chiefly caused by two things:—First, the spreading of the image on the front of the plate in development, and second, reflection from the back of the plate affecting the back of the film. Remedies:—(1) Lamp black or umber mixed with ordinary care, made into a thick paste, and thinned down for use with methylated spirits. This may be applied to the back of the plate, will dry quickly, and may be wiped off before development with a wet rag. (2) Black tissue paper gummed on the back of the plate. (3) Brown or black powder mixed with gum and a little spirit. (4) Glycerine smeared over the back of the plate. (5) Sensitive plates emulsified on ground glass. (6) One or other of the Anti-Halation plates in the market.

TO REDUCE HALATION.

Rub the part (say an east window in the photograph of a church) with chamois leather, or a tuft of cotton wool moistened with methylated spirit. Be careful to rub very gently, say for about five minutes.

GOLD SOLUTIONS.

These should be kept in the dark. A deep blue bottle is recommended, or the bottle may be covered with brown paper.

LENSES FOR HAND CAMERAS.

In a paper upon this subject, read before the West London Photographic Society, Mr. Stein says:—"First of all the lens should be a rapid rectilinear, or one of that class, on account of the greater speed. The size should cover well a quarter plate. The angle of view desired will settle the length of focus as shewn in the following table, which gives the different angles included by the lens:—

6-inch focus equals angle of	40°
5 " " " "	47°
4½ " " " "	53°
4 " " " "	64°
3½ " " " "	74°
3 " " " "	82°
2½ " " " "	90°.

TEN PER CENT. SOLUTIONS.

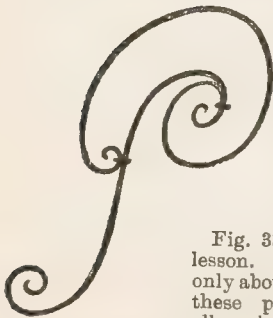
It is convenient if developers are made up in ten per cent. solutions. Every ten drops of each solution will contain one grain of each chemical, and so the developer can be made up, increased, or modified, also any one constituent, added at will and with certainty.

INTENSIFICATION.

Mercury and Ammonia:—After the plate has been fixed, cleared, and well washed, immerse in a solution of 200 grains of bi-chloride of mercury to 20 ounces of water. When the image is thoroughly bleached, wash well for three or four hours in running water, then immerse in a solution of four minims liq. ammonia, 880° specific gravity, to one ounce of water. Allow the plate to remain until it has changed to a clear transparent black, wash thoroughly in running water, and dry.

BENT IRON WORK

CHAP V.—MAKING A SMALL LETTER RACK.



ERHAPS the easiest way to describe the actual making of Bent Iron Ornaments is to select a few simple patterns, and shew the method of their construction.

Fig. 33 serves as a first lesson. The illustration is only about half full size, as on these pages we cannot be allowed to use up the space

with large drawings. The figure represents the Rack of a small Letter Holder, suitable for a mantel shelf; three of these Racks are made, and are then mounted—about an inch and a half apart—on a rectangular wooden stand, which may be polished, varnished, or blackened. Fig. 34 gives an idea of the Article when completed.

There are very few difficulties to be encountered here. Any reader who can do a little drawing will soon be able to enlarge the



FIG. 34.

seen that each Rack is made up of three C curves, with the addition of a flat strip along the foot. Thus there are only four different forms to make, and as there are to be three Racks, but twelve pieces in all.

BENDING THE IRON.

First take the outer curve, measure the exact size with a slip of paper, or, better, with a piece of wire, and cut off the three bits of Iron. Then holding the strip with a pair of heavy Pliers, take the small round nosed ones and proceed to turn the spiral ends, as described in Chapter II. The large arched back of the Rack

must be smoothed into shape by using the heavy Pliers; they are excellent for this purpose. The Iron should frequently be laid on the drawing to see that the curves are being formed correctly.

In making such an Ornament as this, the chief point to receive attention is in forming the outer curves of each Rack exactly alike. This does not refer to the spirals, but merely to the semi-circular arch; a hair's breadth of difference in the turned-in scrolls would not threaten to destroy the Rack, but any dissimilarity in the large curves would at once be noticeable. If the three Ornaments are held side by side, any differences will be seen, and can be remedied in time.

The two inner curves are very simple, and can be formed in a few minutes. With the flat strip, care must be taken that it is not bent,

except for the small twist at each end.

FIXING

In fixing up, first join the large curve to the bottom strip; this must be done very tightly, or the Racks will move about. Take some three-sixteenths inch Iron, and make a couple of Collar Bands; place

them in position at points A and B, insert in the Vice, and screw up. If the Vice will not hold the article conveniently, try the heavy Pliers. Should the Collar turn out to be slack, wrench it off and fix on another; but never let a loose useless clamp be seen on the work. When both Collars are fixed, they may be strengthened with a touch of Solder.

If the reader prefers riveting, he could attach the two pieces in that way. The Rivet would be placed in with its head above, the article then turned upside down, and the hammering thus performed on the underside of the flat strip. On the whole, however, it is suggested to use the Collar Band, as it makes a more ornamental joint.

When this principal portion of the article has been adjusted, the two inner curves should be clamped together at point C. For this, and also for the remaining joints in the Rack, strips of Tin will be found quite sufficient.

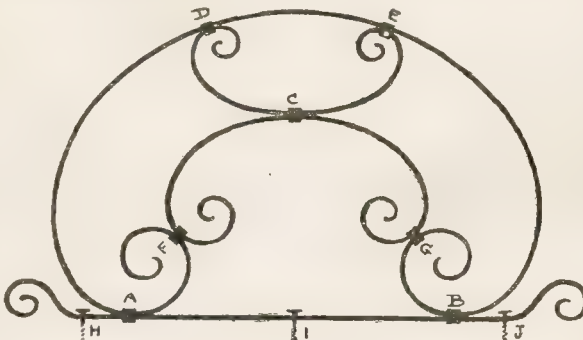


FIG. 33.

Secure an old biscuit can, or any small tin box, and cut with the Shears a few strips about one eighth, or three-sixteenths of an inch wide. These are very easily made into Collars, and as there is no strain on the interior part of the Rack, they will be strong enough for the purpose.

When the joint at C has been duly fixed, the rest of the work is comparatively plain sailing, and does not call for special explanation. The Collars at D, E, F, and G are clamped on, and any objectionable sound of rattling or jingling may be suppressed by letting in a drop of Solder.

THE STAND.

The three Racks may now be painted, and then laid aside, while a suitable piece of wood for the Stand is procured. The selection, here, is entirely a matter of taste, but for the sake of recommending something it may be suggested to take a piece of Light Oak about three-eighths of an inch thick. Cut this to a convenient size, allowing a small margin all round. It is always better to bevel the edges, so that the



FIG. 35.

section may be as Fig. 35. The Stand may be polished, but varnishing is much simpler, and with a small article looks as well.

Fixing the Racks to the Stand requires some skill and patience. Before fitting together, holes should have been drilled in the three flat strips of Iron, at the points H, I, and J—holes just large enough to allow the insertion of a half-inch screw nail. Fix on the centre Rack first, being sure that it is perfectly vertical. The screws will be a little awkward to drive in, but everyone knows the various dodges to get at a screw head "sideways," and only a little extra time and care are required. At points H and J the scrolls of the flat Iron strip could be pulled out slightly, while the screws were being inserted, and then turned back to their proper shape by means of the round-nosed Pliers.



FIG. 36.

If half-inch screws are used, the points will project below; in this way they may be seized with the heavy Pliers, and tightened to perfection. The ends



FIG. 37.

will then be nipped off with the Pincers, and the rough edges smoothed down with a file. The screw heads must be blackened to match the Iron. Should any of the Collars of an article ever threaten to become loose, a crush with the large Pliers will re-fix them; or, if the Collar itself is faulty, it can be taken off and another substituted.

Figs. 36 and 37 gives suggestions for slightly elaborated forms of the same pattern.

(To be continued.)

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In these columns we shall be pleased to answer questions on all subjects coming within the scope of *Hobbies*, but it must be understood that, as space is necessarily limited, we cannot attempt to reply to those queries which are of purely personal interest. In no case can we reply to enquiries by post. We shall always be glad to hear from our readers, and to receive suggestions with regard to *Hobbies*. All communications should be marked "Correspondence," and must be addressed to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C.

FRETWORK AND CARVING.

HORACE.—Pear-tree is much too narrow to be a useful wood for Fretwork.

J. W. WINSTANLEY.—The answer to C.B. in *Hobbies* No. 2 describes how to straighten warped wood.

J. ARNOLD.—A Firmer is merely another name for a Chisel. Slanting Chisels are called Skews, or Corner Firmers.

H.B.—Evidently you have allowed the Plaster of Paris to be exposed. You must keep it in an air-tight tin box, or it will be useless for taking casts.

H.W.B.—When Poker Work is dealt with as a hobby, instructions as to polishing will be given. We regret we have not space in this column to answer your question fully.

PERPLEXED.—The piece of Wood you refer to is a Cutting Board. If it has a screw attached, fix to the edge of an ordinary table, with the V-shaped end towards you. If the Board has no screw it must be secured firmly by means of an iron Cramp, which can be purchased from 6d. upwards. The article to be cut is held on this Board, while the Saw works up and down within the V-shaped opening.

PHOTOGRAPHY AND LANTERN SLIDES.

PHOTOG.—The lens you have cannot be surpassed, and with a quick plate will give first-class results with a fast shutter exposure.

BROWNING.—Your questions about the management of the Oil Lantern have been anticipated; full instructions are given in this week's issue of *Hobbies*.

J.G.R.—With a hand camera you should always have a view finder. This you could make yourself, but we think you would do best to buy one. Most hand cameras have them fitted.

PASTOR.—Many attempts have been made to illustrate the Bible by means of Lantern Slides, and Messrs. Steven Bros., whose advertisement you may have seen in *Hobbies*, have a fine collection.

IRISHMAN.—After exposure the treatment of a Lantern Slide or transparency is practically identical with that of a negative, except in the matter of tone. In a negative clearness and definition are the primary requirements; in a transparency, and even more so in a Lantern Slide, tone and correct density are points requiring the most careful attention.

ENGINEER.—We are not certain that you can obtain a "Set of Slides of the Forth Bridge," made from Photographs taken during the construction of the Bridge. We do know that a very exhaustive series of Photographs were made for the engineer and contractor, and that a Photographer was included on the staff, but whether these were ever made into Lantern Slides we are unable to say. Write to Riley Bros., Bradford; York & Sons, or Tyler, London.

METAL WORK.

A.L.B.—Sheet Brass for making ornamental flowers should be about one forty-eighth of an inch thick. In many cases it may be less.

SMITH.—For examples of Italian Iron Work you cannot do better than pay a visit to the Wrought Iron Gallery at the South Kensington Museum. Any time you go to the country take a look at (and a sketch of) some of the genuine Old English Signs which are hung above wayside inns. There are many exceptionally fine pieces of work to be found.

STAMPS.

"**BAYERN**" can order the hinges through any stationer or fancy goods' dealer, or get them direct from a maker. Hilkes & Co., 64, Cheapside, London, supply the best quality hinges in the market, but they are expensive.

P.G. (Keighley)—Your Penny South Australia is the ordinary penny stamp of current issue, worth a few pence per thousand. What led you to confound this with the rare *unperforated* stamp sold for £7 at auction we cannot imagine. Your other stamps we have returned with values attached, but we cannot advise you where to sell them, as they are too common to be readily saleable.

H.J.K. (Wolverhampton) is puzzled over two stamps which bear no indication of the country whence they come. We dare say other readers are in the same predicament, so we give illustrations of both these "unknowns." The first, that which bears a head of Mercury, is an Austrian newspaper stamp, used only for the postage of book and newspaper packages; it is quite common.



The second hails from Baden, where it was used to indicate the postage of a letter to some remote locality not covered by the ordinary letter carrier. Used specimens of these "Land Post" stamps are getting scarce, but we see that H.J.K.'s copy is unused, and is consequently worth only a few pence.



ELECTRICITY.

CLUCK.—Regarding our article on an "Electric Scarf Pin," presuming the size of the jars to be 6 inches in height, and 4 inches in diameter, the Zincs and Carbons should be 6 inches long and 3 inches wide. The Zincs should be $\frac{3}{8}$ inch thick, and the Carbons $\frac{1}{4}$ inch. Chemical parts by weight.

WEEKLY PRESENTATION DESIGN.

J. HUSBAND (Belfast).—Every copy of "*Hobbies*" contains a Presentation Design. Do not accept a copy from any newsagent unless the Design is enclosed.

AMATEUR PRINTING.

O. MARSHALL.—We hope bye and bye to devote some space in *Hobbies* to this subject.

FOR Sale, and Exchange.

*. The charges for advertisements (prepaid) in this page will be sixpence for every twelve words or less, name and address inclusive, and one halfpenny for every additional word. Single letters, initials and figures are each counted as a word; but undivided numbers (as 152), and prices (as 10s. 6d.) count as only one word each. In every case the name and address of the advertiser must be given for publication, and we cannot at present undertake to supply a private name or number and receive replies to advertisements at our office. All advertisements must be accompanied by remittances, otherwise they cannot be inserted. Whenever possible, payment should be made in Postal Orders, and not stamps. Letters should be marked "Adv.," and must be addressed to the Publisher, *Hobbies*, Bouverie House, Salisbury Square, London, E.C.

NOTE.—Trade Advertisements can only be inserted in this page at the rate of one shilling per line.

A Bargain.—A Splendid Bullfinch, House Mouflered and very tame, price 5/-; also a good Canary, 6/- W. George, 67, Hood Street, Northampton.

Albums.— $\frac{1}{2}$ plate slip-in photo album. Will hold 95 photos, 4/6. Approval. Walker, Maroomia, Tonbridge.

Bamboo Work.—Twelve assorted tortoiseshell canes for 3s. 9d. Price list of materials, tools, &c., 1d.—J. H. SINCLAIR, 14, Mentor Street, Longsight, Manchester.

Bronkolene, Bronkolene.—Bronkolene Cures Asthma, Bronchitis, Pneumonia, and all diseases of the lungs. No failures. A 2s. bottle will last a month. Send stamped envelope for further particulars.—Midland Medical Agency, 180, Corporation Street, Birmingham.

Electric Cycle Lamp and Battery in thorough working order. Cost 25/-; accept 18/6.—G. COPPER, 59, High Street, Old Brompton, Chatham, Kent.

Electric Night Light Watch Stand complete, with Polished Cabinet and highly finished metal fittings. Perfectly reliable, brilliant light, 7/6.—Electric, Lord Street, Openshaw, Manchester. B. 1.

Electrical Hobbies.—Write for New Enlarged List; will just suit you; prices low; best quality.—Electric, Lord Street, Openshaw, Manchester.

Electro-motor Castings (Manchester type), drilled, tapped, and screws fitted, gun metal bearings, pulley, brush holders, and commutator, post free, 2s. 3d.—F. ATTWELL, 83, King Edward Road, Hackney, London.

French Books. My monthly catalogue of French literature, post free on application. Hector, bookseller, Birmingham.

Fretwoods.— $\frac{1}{2}$ inch Canary wood, 3 $\frac{1}{2}$ d. per ft., Walnut, Mahogany, Oak, Cedar, 4 $\frac{1}{2}$ d. per ft.—T. Carter, Lichfield. D. 2.

Fretwork, Carving. Lists 48-56 free. Henry Zilles, 26, Wilson Street, Finsbury, London.

Fretwork, Carving, Bent Iron, and Bamboo Materials; Fretwork Outfits from 9d., Bent Iron 5d. and 6d. per pound, splendid Fretwood from 2d. per square foot. Lund, H Dept., 70, Mannington Lane, Bradford.

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Important to Librarians, Clubs and Institutes, 460 volumes of the latest authors to be sold at a great reduction, in perfect condition, in one lot or lots of 50. Offers. No dealers. W., Castle Library, Reigate, Surrey.

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Newspapers.—Punch for sale, a complete set, 1841 to 1894, bound in half morocco, cloth back, just finished by binders, £20 cash; also a set from 1860 to 1894, bound in same style, £10 10s. Can be seen any time. S., 6, Harpur Street, W.C.

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Sets.—High class cameo brooch and earrings in solid yellow gold, 12/6, cost 35/-, or exchange diamond to cut plate glass.—N., 30, Cremorne Street, Notts.

Sewing Machines.—Lockstitch Sewing Machine, perfect condition, 14/-, bargain. Geo. Frampton, New Inn, Charnminster.

Silver and copper coins for disposal. Cash, or exchange for others. Returnable list. Watts, Industry-road, Darnall, Sheffield.

Stamps.—11 varieties (used) Bechuanaland, good condition, catalogued (Gibbons' latest) 10.8. Price 3/6.—EDGAR, bank manager, High Wycombe.

Stamps.—Bona fide applicants for approval sheets, enclosing stamp, receive 12 different Swiss unused.—SQUIRE, Gordon House Road, N.W.

Stamps.—6d., 70 different, Mexico (coach), Perak (tiger), Colombia, Peru, 5 Brazil, Persia (lion). H., 379, York Road, Wandsworth.

Stamps.—Complete set 5 Denmark, 1864, 1/1; 3 Denmark Service, skillings, 10d.; 6 unused Brunswick, 1/6; approval selections; exchanges. Willey, Park Walk, Chelsea, London, S.W.

Stamps. Wanted, collections or loose collector's duplicates sent approval. Collector, 7, Charleville Circus, Sydenham.

Stamps.—Saint Christopher, obsolete, rare; Saint Helena, Saint Thomas, Hawaii, Victoria, scarce official; Pahang, Congo, Paraguay, Nowannger, Newfoundland, Johore, Haiti, Cashmere; 43 excellent genuine varieties, 1/1. Smith, Arthur Road, Kingston, Surrey.

Turning.—Capital Lathe, nearly new, complete, with 40 tools and chucks. Dingle Lodge, Reigate.

Victor Supply Co., Grimsby, sell Mail-cart Wheels and Parts.

Wanted, 49th Annual Report of the Registrar General (1886). State price. Tebb, Boscombe-hill, Bournemouth.

3000 Library Books to be disposed off, all in fairly good condition. 2-Vol. Novels, 1/3.; 3 Vols. for 1/6; 6 Vols. for 2/6; 12 Vols. for 4/6, Carriage paid. Bailey's Library, Streatham Place, S.W.

8 Volumes Illustrated London News, from 1864, 30/-, or exchange. Booth, 32, Union Street, Burton-on-Trent.

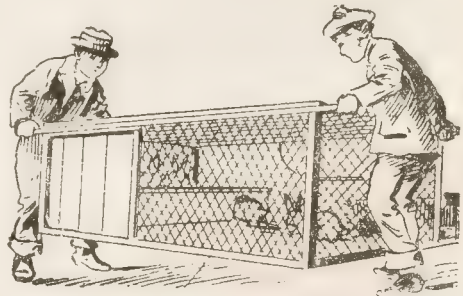
Hobbies that Pay.

RABBITS FOR PROFIT.

AT the present day no subject is causing a greater stir in the live-stock world than the Rabbit. It is now asserted that Rabbits can be made to pay better than Fowls, and certainly it is a fact that Rabbits running loose on pasture will find all the food they require for eleven months out of the year. Considering that Fowls require to be fed every day, this fact is worthy of attention, and it naturally makes one ask if it be possible that Rabbit breeding and rearing for sale as food is a profitable and easily managed business. The Wild Rabbit is the subject we wish to consider in this chapter, and we will see what are the possibilities of turning over a small sum in hard cash in our markets. Systems with regard to Rabbit breeding, hitherto tried in this country, have failed more or less for want of making a speciality of any particular one of them; or because there has been a defect in the method. The most frequently tried system has been that introduced by Major Morant, and called the "moveable hutch" plan of breeding Rabbits for profit. But although the plan is feasible and practicable, it has a very grave defect. The Wild Rabbit is not adapted to it; and there is *no other* Rabbit, except the Belgian Hare, that seems to pay for the care and attention which this plan demands. If the Ostend Rabbit is to be turned out of our markets by a supply of our own produce, it will not be done by the Belgian Hare—this being the one which the "Ostend" merchants send us in such large quantities from October to April. It is a good point that our British Wild Rabbit is superior in so many particulars to the Ostend variety. As being hardy, prolific, and free from diseases, it has no equal; nor can the quality of its flesh be matched by any other. It only takes a back mark with the Belgian Hare in the point of size. A statement was recently made by one of the largest merchants in the London Rabbit trade, for the benefit of intending breeders, to the effect that Rabbits for market, providing they have the real wild flavour in flesh, may be as large as one pleases; the larger they are the better a dealer will like them. Considering that 200,000 English Wild Rabbits would be required

every week in the season to take the place of those at present imported, the question is one well worth considering by every class of producer.

Amateur producers may take up the pursuit in three or four ways. They may (1) rear young Wild or half Wild Rabbits in some enclosed or confined premises and then sell them to turn down on larger areas of land to grow on. They may (2) have a set of enclosures where the young Rabbits can be supplied with green food daily, and where they will be left alone (except at feeding time) till they are full grown. They may (3) if grass plots, lawns, or paddocks are at their command, work on the portable hutch system and keep their stock out of doors in hutches all the year.



A Portable Hutch.

This hutch has an open wire-netted bottom—except a narrow part at the further end, where a board for the nest-box extends across. Its purpose is that by removing it about its own width twice every day, the inmates may be enabled to eat the grass at the bottom of the hutch through the wire-netting, and so gather their daily food. The hutch has a superficial area of about two square yards (6 feet by 3 feet), and if twice that space be counted for each day, and a period of three weeks be allowed before it can again be set upon the first spot of grass used, a second time it will be seen that it requires a plot of ground about 9 yards square to feed the stock in one hutch. Practically 10 yards square will suffice for a hutch containing a Doe and her young,

till the latter be weaned. In summer the space will be less, and during the grass growing period it can be made to carry two hutches for every hundred yards. The care of the turf is a necessary item. It must be got into good heart by sowing some fresh grass seeds upon it and by dressing it with fine new earth and manure. It will also require watering copiously in dry weather, and if hutches are to be kept on it in winter, it must be dry and well drained. With the hutch Rabbit farming system, the plan might be adopted of clearing the land by the end of October, and of letting the stock Does rear their last litters under cover and be hand fed. The young thus reared would be fit to sell by Christmas, after which the stock Does only would be on hand till breeding begins again the next spring. If one had an acre of good grass, 50 hutches might be kept upon it; and if a plot of say $\frac{1}{4}$ th of an acre be tilled, and crops of oats, carrots, and hay be grown upon it, this would enable the owner to provide all the extra food necessary for his stock during winter. Fifty hutches should turn out a lot of Rabbits during the season. If ten were kept for stock Does, the other forty would be used to rear the four litters yearly that each Doe would produce. That is to say, they would accommodate that number easily, reckoning six at each litter, and might do much more. The total head of Rabbits, counting five litters to each Doe, that might be reared on an acre in this way might reach three hundred. If killed off as soon as they reached a weight of 3 lbs. each, and sold at 6d. per lb., or 1/6 each, the acre of ground would return a sum of over £20 yearly.

THE RABBIT FARM.

It is a very simple thing to erect a Rabbit-proof fence. The fence and the stock when in a suitable position or situation are the two requisites that make a Rabbit farm. A good situation would be one which had a sunny aspect, either flat or on a slope, and which faced the south. An old hedgerow bank, with or without trees, but with plenty of dry burrows for the Rabbits is necessary; and a fence to keep in the stock, and to keep out prowling dogs, cats, and foxes would have to be erected.



A Rabbit-proof Fence.

Rabbits will climb over if the fence is simply of a flat form. It must have an overhanging flap at the top to stop them when they climb. Barbed wire at the top of such a fence (see illustration) will keep out foxes, and if a stout rail be fixed along the outer side of the fence at the level of the middle wire, 2 ft. 6 in. from the ground, it will be a safe fence against cattle. Such a rail is not shown in the sketch, but its arrangement is an easy matter. To keep the Rabbits from escaping by getting under the wire, it is necessary to lay a width of wire netting flat on the ground.

This need not be more than six inches wide. Rabbits when trying to scratch or burrow will begin close at the bottom. As to the shape of the enclosure a long narrow one is best. Rabbits do not feed far away from their burrows, and they will eat off the grass down to its roots near their runs, rather than go a little distance even where it may be more plentiful. It is in the nature of a Rabbit to like shelter, and it has so many foes to be on the look out for, that it never leaves its ground except when pressed with hunger. Should an old bank be enclosed and stocked for this business, the number of Rabbits that can be kept in the run will depend on what amount of food can be grown, or upon what food the owner can provide that will cost little and that will suit the stock. Hay is the food that comes first as a substitute for grass in winter. Roots—turnip, carrot, Kohl-rabi, and cabbages—may be supplied during times of scarcity, and corn, such as crushed oats, may also be given to the stock when it is considered profitable to do so.

THE BEST BREED.

The English Wild Rabbit makes a weight of 2½ lbs. when full grown. One shilling and three-pence for 2½ lbs. of English Wild Rabbit flesh is a small price when one considers that the Ostend Rabbit sells for an average price of 7d. per lb., although its flesh is inferior, and is never "fresh and fresh," but sometimes quite stale before we can get it into the market. Freezing imported rabbits in storehouses for three or six months has become a common thing with shippers and merchants in this country, and when the bulk is thawed out and sold no one realizes that the carcasses have been dead for such a long time. If a large Wild Rabbit, say one of 4 lbs. when full grown, can be raised by improving the present breed by careful crossing, it is one of the best things an amateur can take up. The Belgian Hare, the Hymalayan, and the Flemish Giant all offer big or hardy types from which crosses with the Wild one may make improvements. In every cook's opinion, and in the opinion of every merchant, the most valuable Rabbit flesh is that of the English Wild one.

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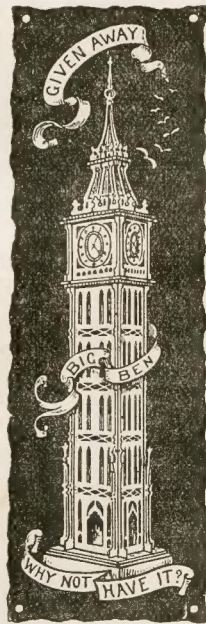
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